

Also at page 2 of the Office Action, the Examiner indicates that the Amendment After Final, filed May 18, 2001 has been entered as requested by the CPA papers. The Examiner sets forth the status of various claims and notes that the pending claims are: 23-34, 58-61, and 63-68, with claims 23, 58, and 63 being the independent claims. The Examiner then indicates that the entered amendment is sufficient to withdraw certain prior art rejections based on the cited Ervin and French patents, as well as previous rejections to claims 58-61.

At pages 3-4 of the Office Action, the Examiner rejects claims 23, 24, 26-28, and 63 under 35 U.S.C. §103(a) as being unpatentable over GB 1 151 521, assigned to Tarkett AB in view of J. Levinstein's *The Complete Carpet Manual*, page 27, L. Shoshkes' *Contract Carpeting*, Chapter 4, pages 60-67, Higgins (U.S. Patent No. 5,545,276), and further in view of Christy (U.S. Patent No. 5,607,993).

More specifically, the Examiner indicates that Tarkett shows a foam material suitable for carpet backings, and, included in the foam material, are microspheres of alumina silicate. The Examiner admits that Tarkett does not explicitly teach the claimed primary backing, adhesive pre-coat, intermediate backing layer, or reinforcement layer. However, the Examiner asserts that these layers are well known in carpets, as indicated by the cited Levinstein, Shoshkes, and Higgins references. In light of these references, the Examiner argues that it would have been obvious to one of ordinary skill in the art to employ an adhesive or pre-coat to the primary backing, and to apply a secondary or intermediate backing thereto, before applying the foam backing. The Examiner asserts that motivation to do so would be to securely bond the pile fibers into the primary backing and to add dimensional stability to the carpet. The Examiner admits that the combined art of the Tarkett, Levinstein, and Shoshkes does not teach polymeric microspheres. However, the Examiner asserts that polymeric microspheres are well-known alternatives to ceramic microspheres. The

Examiner asserts that the Christy reference teaches that pre-expanded or expandable thermoplastic microspheres and ceramic microspheres are both suitable as fillers. The Examiner asserts that Christy also teaches that thermoplastic microspheres are preferable in that they are less dense and friable than ceramic microspheres. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to substitute polymeric microspheres for the ceramic microspheres of the Tarkett invention, with the expectation of easier mixing and reducing the density of the foam backing. In view of this, the Examiner rejects the identified claims as being obvious over the cited art. For the following reasons, this rejection is respectfully traversed.

One of the crucial aspects of the present rejection involves the assumption that the teachings of the Christy patent can be extendable to the Tarkett technology. The substance of the Christy patent is utterly unrelated to carpet technology. As noted in the abstract, the Christy patent relates to low-density bouncing putty, generally a boro-silicone with lightweight additives to provide handling properties. Put in more familiar terms, the Christy patent refers to inventions such as the novelty item known as Silly Putty<sup>®</sup>, a deformable novelty putty used by children, or for the various applications set forth at column 1, lines 23-29. There is no indication in the cited reference that a person skilled in the art would consider a technology from a novelty item with a limited working life as applicable to a permanent item such as a carpet. The differences between the two items are simply too large. From the standpoint of structure or function, disposable putty bears no tangible relationship to a carpet. In addition, Christy does not relate to polymeric microspheres alone but relates to the use of microspheres in a bouncing putty formulation. This non-analogous art has no relationship to carpet manufacturing. In fact, Christy at column 1, lines 23-29 specifically states that the bouncing putties are used in novelty items such as silly putty, as a hand strengthening exercise aide, or a "worry bead" type product. Needless to say, none of these uses have any

relationship to carpets or the manufacturing of carpets. Clearly, one skilled in the art would not look to Christy for any solutions or substitutions for a textile or carpet substrate.

Moreover, with respect to the Examiner's argument that it would be obvious to substitute alumina silicate microspheres for polymeric microspheres as shown in Christy, the applicants respectfully disagree. As indicated, first Christy does not relate to carpet manufacturing and further does not relate to the sole use of microspheres but relates to the use of microspheres in putty for very specific reasons related to the beneficial properties of putty. Thus, while Christy may show a variety of different microspheres, this showing does not mean that one skilled in the art would make such substitutions for purposes of making carpet backings. The Examiner has not explained how one would make such a substitution in view of this non-analogous art and clearly Christy doesn't show this substitution as being suitable for carpets and neither does Tarkett. Furthermore, Christy does not relate to microspheres alone but relates to a putty. One skilled in the art of carpets would not put a putty into a carpet substrate.

With respect to the remaining secondary references such as Levinstein, Shoshkes, and Higgins, while these references may show various layers, again, there is no teaching or suggestion of using these particular types of layers with the layer of Tarkett that contains a certain type of aluminum silicate microsphere.

Thus, applicants believe that a prima facie case of obviousness has not been established by the Examiner and further that Christy is non-analogous art and would not teach or suggest anything to one skilled in the art in the area of carpet manufacturing. Thus, one would not be motivated to alter Tarkett in view of Christy and further would not be motivated to alter Tarkett in view of the other secondary references for purposes of achieving the product set forth in the claimed invention. For these reasons, this rejection should be withdrawn.

At pages 4-5 of the Office Action, the Examiner rejects 25, 64, and 65 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, and Christy references as applied to claim 23 above. More specifically, the Examiner states that although the cited art does not explicitly teach broadloom carpet, modular carpet tile, or wide roll carpet, these types of carpets are well known in the carpet industry. The Examiner then gives Official Notice that broadloom, carpet tiles, and wide roll carpet are conventional types of carpet. Therefore, the Examiner asserts that the Tarkett reference inherently applies to the claimed type of carpets. In the alternative, the Examiner argues that it would have been obvious to one of ordinary skill in the art to employ the Tarkett invention in the known conventional forms of carpet, motivated by the application of the inventive foam backing to standard carpet production lines. In view of all the foregoing, the Examiner rejects the claims as being obvious over the cited art. For the following reasons, this rejection is respectfully traversed.

For the same reasons set forth above with respect to the §103 rejection of claims 23, 24, 26-28, and 63, claims 25, 64, and 65 are also patentable. As indicated above, Christy is non-analogous art and would not be combinable with Tarkett. Even if combined, Christy does not show any substitution of one microsphere for another with respect to carpet manufacturing and further, Tarkett does not use putty in its carpet manufacturing.

With respect to the Examiner's Official Notice, applicants respectfully traverse and disagree with the Examiner's Official Notice and its position. As detailed in previous responses to office actions and as clearly set forth in the present application, broadloom carpets are different from modular tiles which are different from six foot wide roll goods. Specifically at pages 1-5 of the present application, the different construction and properties needed for modular tiles are discussed and compared to broadloom carpets. It is clear that designs used in broadloom carpets are not

applicable to modular tiles or 6 ft. wide roll goods. In fact, at page 2 of the present application, lines 9 and 10, the present application specifically states with respect to carpet tiles and 6 ft. wide roll goods that "[t]hey are different in properties and end use applications compared to traditional 12 ft. wide SBR latex back carpets." The present application further states that the construction and components of carpet tiles and 6 ft. wide roll goods are completely different from broadloom carpets and that the needs of such 6 ft. wide goods and tiles are significantly different. Accordingly, there is ample evidence in the present application to clearly show that these various forms of carpets are not interchangeable and are not similar to one another; therefore, Tarkett's reference to carpets does not "inherently" include all forms of carpets.

With respect to the Examiner's assertion that it would be obvious to one of ordinary skill in the art to use the invention of Tarkett in known conventional forms of carpets, again, the present application adequately responds to the Examiner's position by showing that the functional requirements and the structure of such various forms of carpets are significantly different and one skilled in the art would not simply take broadloom carpet knowledge and make carpet tiles and 6 ft. wide roll goods. The applicants have pointed out this argument in various previous responses without the Examiner providing any evidence to the contrary. The Examiner is respectfully requested to provide evidence to show the interchangeability of these various forms of carpets; otherwise, the Examiner is respectfully requested to withdraw this rejection.

Furthermore, with respect to Tarkett, it is respectfully noted that the reference to "textile carpet" in Tarkett is with respect to the latex composition in example 1 and as pointed out in pages 1-6 of the present application, a latex formulation is quite different from the formulations of the present invention. Further, the latex formulations set forth in example 1 of Tarkett do not contain a

plasticizer. As indicated, latex formulations can be useful in 12 ft. broadloom carpets but are not useful in other types of carpets. Accordingly, for these reasons, this rejection should be withdrawn.

At page 5 of the Office Action, the Examiner rejects claims 29 and 30 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, and Christy references, as applied to claim 23 above. More specifically, the Examiner asserts that although the cited art does not explicitly teach the claimed carpet density, it is reasonable to presume that the carpet made according to the cited references would meet the density range claimed by the applicant. The Examiner indicates that support for this presumption is found in the use of similar materials and the similarity of the final products. For the following reasons, this rejection is respectfully traversed.

These claims would be patentable for the same reasons set forth above with respect to the patentability of claims 23, 24, 26-28, and 63.

Furthermore, with respect to the Examiner's argument that the carpet density set forth in claims 29 and 30 would be obvious in view of the cited references, applicants respectfully disagree. The Examiner asserts that it is "reasonable to presume that a carpet made according to said art would meet the density range claimed by the Applicant." However, the Examiner provides no support for this position. First of all, as mentioned above, Tarkett does not relate to any specific carpet design and only mentions a foamed material which contains ceramic microspheres. This is significantly different from polymeric microspheres as acknowledged by the Examiner. Thus, this alone would affect the density of Tarkett. Furthermore, as indicated above, Christy would not be combinable with Tarkett due to it being non-analogous. Also, one would not put putty into a carpet backing. In addition, the various other layers that the Examiner asserts would be obvious simply are not combinable with Tarkett since Tarkett does not teach or suggest any other various layers and

the Examiner is essentially reconstructing the present application through hindsight which is not permissible for purposes of a rejection.

In addition, since Tarkett, as mentioned above, does not relate to specific types of carpets and especially does not relate to modular carpet tiles or 6 ft. wide roll goods, and in view of the information provided in the present application, particularly at pages 1-6, the density requirements and other needs of such materials are significantly different from other forms of carpets. Thus, it would not be obvious to achieve these density requirements in view of the cited art. Accordingly, for these reasons, this rejection should be withdrawn.

At pages 5-6 of the Office Action, the Examiner rejects claim 31 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, and Christy references, as applied to claim 23 above. The Examiner admits that the prior art does not explicitly teach delamination values. However, the Examiner asserts that a carpet made according to the cited prior art would meet the presently claimed delamination values, since the prior art carpet meets the structural and compositional limitations of the present invention. For the following reasons, this rejection is respectfully traversed.

Again, for the reasons set forth above with respect to the patentability of claims 23, 24, 26-28, and 63, claim 31 would also be patentable.

In addition, as appreciated by the Examiner, the cited art does not teach or even suggest delamination benefits or delamination values. Delamination is especially important with respect to modular tiles and 6 ft. wide roll goods and since Tarkett does not even relate to these goods, Tarkett could not possibly teach or suggest such delamination values. Certainly the secondary references and Christy do not teach or suggest such delamination values either and it is unclear how claim 31 can be rejected in view of the combined references when none of the references alone or combined

teach or suggest the claimed invention of claim 31. Accordingly, for the reasons set forth above, this rejection should be withdrawn as well.

At page 6 of the Office Action, the Examiner rejects claims 32-34, 58, 59, and 61 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, and Christy references, and in further view of Joslyn et al. (U.S. Patent No. 3,708,441). More specifically, the Examiner asserts that the identified claims limit the thermoplastic backing to having an activated blowing agent. The Examiner notes that a frothing technique is employed to produce the foam in the Tarkett reference. However, the Examiner asserts that the use of blowing agents is a well-known alternate-technique for producing foams by virtue of the Joslyn et al. reference, and therefore the selection of any one of these three equivalents would be within the level of ordinary skill in the art.

Additionally, with respect to the limitations of claim 59, wherein the foam expansion rate is recited, the Examiner asserts that the amount of expansion is dependent upon process parameters, such as amount of blowing agent present, temperature, pressure, etc. Thus, the Examiner asserts that the claimed expansion rate would have been obvious to one skilled in the art, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. For the following reasons, this rejection is respectfully traversed.

For the reasons set forth above with respect to the patentability of claims 23, 24, 26-28, and 63, this rejection should also be withdrawn. Clearly, claims 32-34, 58, 59, and 61 are patentable over the cited art. While the Examiner asserts that it is known to use blowing agents, the Examiner has not explained why it would be obvious to actually incorporate a blowing agent into Tarkett. Certainly, Tarkett mentions a large grouping of various ingredients that can be used but not once mentions the presence of a blowing agent. The Examiner does not provide any adequate reason



why the particular amounts set forth in claim 34, for instance, would be obvious. Furthermore, a foaming agent can have an affect on the overall product and thus one cannot easily say that a blowing agent can be used in Tarkett. The interchangeability of mechanically stirring with air and the use of a blow agent has not been shown by the Examiner. As mentioned in the present application, for instance at pages 12-14, an advantageously lower blow ratio can be used with the present invention which is different from conventional blow ratios, and the present invention permits a consistent thickness across the entire product. This certainly is not shown or suggested by any of the art cited by the Examiner. This would also be true with respect to claim 59. Thus, while the Examiner asserts that these various limitations set forth in these dependent claims would be obvious, the Examiner cannot point to any portion of the prior art which specifically states these various limitations or even suggests these types of goals and advantages with respect to the product claimed in the present application. Accordingly, for the reasons set forth above, this rejection should be withdrawn as well.

Furthermore, claim 58 further recites that the secondary backing is casted onto the primary backing. As indicated in previous responses, this is a unique advantage of one embodiment of the present application. The Examiner has not pointed to any piece of cited art that teaches or suggests this embodiment as specifically claimed in claim 58.

Accordingly, for the reasons set forth above, this rejection should be withdrawn.

At pages 6-7 of the Office Action, the Examiner rejects claims 66 and 68 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, and Christy references. The Examiner also rejects claim 67 under 35 U.S.C. §103(a) as being unpatentable over the cited Tarkett, Levinstein, Shoshkes, Christy, and Joslyn et al. references, and further in view of Ervin et al. (U.S. Patent No. 3,819,463) and page 362 of Rodriguez's *Principals of Polymer*

*Systems*, Second Edition. The Examiner admits that the prior art does not explicitly teach whether the foams are closed or open celled foams. However, the Examiner asserts that closed-cell foam is obvious over the cited prior art. The Examiner suggests that Ervin et al. teaches foam backing formed by foaming the backing composition between spaced platens in a press or parallel belts in order to obtain a constant thickness. As set forth at page 362 of Rodriguez's *Principals of Polymer Systems*, "closed-cell foams are typically produced in processes where some pressure is maintained during the cell formation process." The Examiner asserts that producing closed-cell foam would have been a result of the process of maintaining a constant backing thickness. For the following reasons, this rejection is respectfully traversed.

The reasons set forth above with respect to the patentability of claims 23, 24, 26-28, and 63 apply equally here and accordingly this rejection should be withdrawn for these reasons.

Furthermore, with respect to the Examiner's reliance on Ervin et al., the portion of the reference cited by the Examiner does not indicate that any closed cell-foams were actually formed. Likewise, the Examiner does not demonstrate that the process of Ervin et al. is the same as used in practicing the present application. For instance, as indicated to the Examiner previously, Ervin et al. describes a process using aqueous latex chemistry as set forth at column 2, lines 32-36. As indicated previously at pages 1-6 of the present application, such aqueous latex chemistry is quite different from the claimed invention and has numerous disadvantages especially with respect to certain types of carpets.

As for the Rodriguez reference, the particular passage relied upon by the Examiner is not even related to textile substrates and only mentions "foamed polymeric materials." One skilled in the art would not conclude that this article would be applicable to textile substrates since textile substrates are not even mentioned in this particular article.

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Furthermore, the Examiner relies on Ervin et al., which relates to aqueous latex chemistry, and the Examiner also relies on a portion of Tarkett which uses a plasticizer with PVC. This is a combination of very different chemistries. One skilled in the art would not combine PVC/plasticizer chemistry with aqueous latex chemistry since the two are incompatible. Thus, it is not obvious to take the particular chemistries set forth in Ervin et al. and apply it to Tarkett. Accordingly, for these reasons, this rejection should be withdrawn as well.

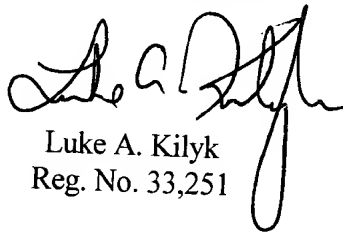
The Examiner is highly encouraged to contact the undersigned by telephone should there be any remaining questions as to the patentability of the present invention.

**CONCLUSION**

In view of the foregoing remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 50-0925. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,



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